

L 04926-67
ACC NR: AP6019513

EWT(1)

IJP(c)

GG/GW/WW

SOURCE CODE: UR/0362/66/002/002/0149/0163

AUTHOR: Shifrin, K. S.; Chaynova, E. A.29
BORG: Main Geophysical Observatory (Glavnaya geofizicheskaya observatoriya); Central
Aerologic Observatory (Tsentral'naya aerologicheskaya observatoriya)

TITLE: Determination of the particle spectrum from the scattering function

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 2, 1966, 149-163

TOPIC TAGS: particle distribution, particle spectrum, light dispersion, light scatteringABSTRACT: Methods for the gathering of information from scattered light concerning the spectra of particles of dispersive systems are important for the optics of turbide media. From the mathematical point of view, an efficient method is needed for the solution of the first order integral equation

$$I(\beta) = \int_0^{\infty} I(\beta, r) f^*(r) dr,$$

where $f^*(r)$ is the sought for particle size distribution curve; $I(\beta, r)$ is the scattering function of individual particles of radius r ; and β is the scattering angle. The present authors discuss

UDC: 551.521.3:535.361

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the kernel of the integral equation, the outline of the direct problem, and the formulation and calculation of the inverse problem. The stability of the calculational scheme for the inversion of the angular scattering function onto the particle spectrum for a wide range of dispersion systems with γ -distributions is investigated and the results of numerous calculations of polydispersion scattering functions are presented for such systems together with the determination of the particle sizes for which such inversion is possible. Tables containing calculated values of various special functions used are also given. Orig. art. has: 32 formulas, 5 tables, and 8 figures.

SUB CODE: 20,12 / SUBM DATE: 05Sep65 / ORIG REF: 003

kh

Card 2/2

Approved for
release under
the FOIA
EXEMPT 1
and 3
100-2000

(N)

SOURCE CODE: UR/0362/66/002/008/0851/0858

AUTHOR: Shifrin, K. S.; Kolmakov, I. B.

CITE: Main Geophysical Observatory (Glavnaya geofizicheskaya observatoriya)

TITLE: Influence of limitation of the indicatrix measurement interval on the accuracy
of the small-angle method

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 8, 1966, 851-858

TOPIC TAGS: Light dispersion, light scattering, atmosphere cloud, fog, particle dis-
tributionABSTRACT: This is a continuation of earlier work (Tr. GGO, no. 152, 1964 and preceding
papers) dealing with the determination of the particle spectrum of a disperse system,
such as a natural cloud or fog, from data on its light scattering, and is devoted to
the accuracy with which the spectrum can be reconstructed by means of inversion of the
scattering pattern by the small-angle method. The authors first analyze the direct
problem of determining the optical information necessary to describe scattering from
a system of particles with a γ distribution. A formula is derived which makes it pos-
sible to estimate the contributions of the small and large particles to the total dis-
tribution of the light. A series of numerical calculations with this formula shows
that when the small-droplet fraction is eliminated from the spectrum, the entire scat-
tering pattern contracts to the ordinate axis, and when the large-droplet fraction is
disregarded, the pattern becomes distorted, and the pattern acquires an oscillatory

UDC: 551.521.3: 535.361

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character. The inverse problem is then considered and it is shown theoretically that if the optical measurements include a certain fundamental angle interval, then the spectrum can be reconstructed with a sufficient degree of accuracy. This angle interval depends on the requirements imposed on the particle-size distribution function and on the specified particle-size interval. Orig. art. has: 4 figures and 22 formulas.

SUB CODE: 20104/ SUBM DATE: 12Mar66/ ORIG REF: 006/ OTH REF: 001

Card 2/2

L 31497-66 EWT(1)/T IJP(c)
ACC NR: AP6013026

SOURCE CODE: UR/0051/66/020/004/0692/0700

AUTHOR: Shifrin, K. S.; Perel'man, A. Ya.; Bakhtiyarov, V. G.

48
B

ORG: none

TITLE: Determination of the spectra of particles of a disperse system from data on its transparency. VI. Experimental verification of the method by means of models

SOURCE: Optika i spektroskopiya, v. 20, no. 4, 1966, 692-700

TOPIC TAGS: spectral distribution, optic transmission, particle spectrum, optic dispersion

ABSTRACT: The first five parts of the article (Opt. i spektr. v. 15, 533, 667, 803, 1963; v. 16, 117, 1964; v. 20, 143, 1966) dealt with a theoretical method for determining the spectrum of particles in a disperse system by determining the spectral transparency, and contained formulas derived on the basis of certain assumptions and theoretical models. The present article discusses the difficulties which arise in experimentally checking this method and describes experiments made on several two-dimensional models of turbid media. These were either spores of fungi Calvatia, on a dry plate made of KRS-5, or dispersed single crystals of AgBr

UDC: 541.182 + 535.345.1.001.1

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ACC NR: AF6013026

in gelatin, placed on a quartz plate. The spectral transparency was measured with standard instruments in the 0.24-1.1 and 2-25 mm ranges. The distribution of the dimensions of the spores or the AgBr were measured with an electron microscope and the size distribution was determined microphotographically by a sampling technique, since the plane model did not fit the field of view of the electron microscope. The spectra obtained with the electron microscope and by the transparency method were found to be in satisfactory agreement. Orig. art. has: 6 figures and 13 formulas.

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SUB CODE: 20/ SUBM DATE: 24Oct64/ ORIG REF: 010/ OTH REF: 001

Card 2/2 mc

SOURCE CODE: UR/0362/66/002/006/0606/0616

ACC NR: AP0022219

AUTHOR: Perel'man, A. Ya.; Shifrin, K. S.

ORG: Main geophysical observatory (Glavnaya geofizicheskaya observatoriya)

TITLE: Calculation of optical characteristics of dispersive systems with a narrow distribution

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 6, 1966, 606-616

TOPIC TAGS: light scattering, atmospheric optics, aerosol, aerosol optical property

ABSTRACT: The authors have chosen a family of gamma function distributions as a model for individual particle light dispersive characteristics. With the help of this model and a modified stationary phase method, a general asymptotic formula has been developed, representing the structure of the dispersed radiation field in the case of narrow dispersive systems. The range of validity and practical applicability of the obtained formula has been evaluated. The formula has been used for the computation of polydispersed optical characteristics pertinent to the methods of transparency, the scattering function and small angles. The results show the oscillating nature of the optical characteristics in the case of almost monodispersive systems. Orig. art. has 63 formulas.

SUB CODE: 13, 20/ SUBM DATE: 25Dec65/ ORIG REF: 006/ OTH REF: 001

UDC 551.593.5

Card 1/1

ACC NR: AP7010687

radiation field and the quantity of heat which a drop releases into surrounding space by the heat conductivity of evaporation and thermal radiation. The authors present formulas and curves which make it possible to compute the kinetics of evaporation of any drop with an initial radius from 1 mm to 1 μ m. As an example of the use of the curves, the authors show the change of the drop spectrum of a polydisperse cloud in the field of solar radiation. At the initial time the drops were distributed in conformity to the law $Aa^2 e^{-\beta a}$ with a mode equal to 5 μ m. Since the large drops evaporate more rapidly than the small drops, the spectrum narrows with time and the distribution is deformed. A half-hour after the onset of the process the modal radius will be about 1.5 μ m (3 μ m), the liquid water content decreases by 4.4 times (2.5 times), and after an hour the distribution becomes amodal (mode of about 1 μ m), the liquid water content will be 20 times (10 times) less. Orig. art. has: 5 figures and 12 formulas.
JPRS: 40,291/

Card 2/2

SHITRIN, Kh. V.

"Electrolysis in the Case of Successive Passage of Current through Gaseous and Liquid Phases: I. Formation of Hydrogen Peroxide upon Discharge through Hydrogen, Oxygen, Nitrogen and Water," Iz. Ak. Nauk SSSR, Otdel. Khim. Nauk, No. 5, 1944; Kazan' Chemical Technological Institute, The Chair of Physics, -1944-.

On the Theory of Electric Properties of Good Conducting Semi-Conductors
K. Shifrin (*J. Physics (U.S.S.R.)*, 1944, 8, (4), 242-252).—[In English.]
Theoretical. Expressions are derived for the relationship between concentration
of free electrons and concentration of impurity atoms in semi-conductors
of the "impurity metal" type, and for the dependence of the number of free
electrons on temperature. The electrical conductivity of semi-conductors
with both atomic and ionic lattices is considered, and thermoelectric effects
are dealt with.—G. V. R.

OPEN
COMMON ELEMENTS
TERIALS INDEX

SHIFRIN, Kh.V.

On certain regularities in the D.I. Mendeleev periodic system. Elements of the theory of numbers applied to the D.I. Mendeleev periodic system. Report No.1. Trudy KKHTI no.21:07-64 '56. (MIRA 12:11)
(Periodic law)

VINOGRADOV, A.P.; ALIMARIN, I.P.; KLYACHKO, Yu.A.; RYABCHIKOV, D.I.;
BUDNEV, N.A.; HUDENKO, N.P.; TOROPOVA, V.F.; SHIPRIN, Kh.V.

Aleksei Mikhailovich Vasil'ev. Zav.lab. 22 no.7:887 '56. (MIRA 9:12)
(Vasil'ev, Aleksei Mikhailovich, 1882-1956)

MOCHALOV, K.N.; SHIFRIN, Kh.V.; BOGONOSTSEV, A.S.

Boron hydrides, new reagents in analytical chemistry. Report
No.1. Trudy KKHTI no.26:135-139 '59. (MIRA 15:5)

1. Kafedra analiticheskoy khimii Kazanskogo khimiko-tehnologicheskogo
instituta imeni S.M.Kirova.
(Boron hydrides) (Chemistry, Analytical)

MOCHALOV, K.N.; BOGONOSTSEV, A.S.; SHIFRIN, Kh.V.; Prinimala uchastiye:
GOLUBEVA, V.G.

Boron hydrides, new reagents in analytical chemistry. Report
No.3: Boron hydride method for determining iron. Trudy KKHTI
no.26:145-150 '59. (MIRA 15:5)

1. Kafedra analiticheskoy khimii Kazanskogo khimiko-tehnologicheskogo
instituta imeni S.M.Kirova.
(Iron--Analysis) (Boron hydrides)

MOCHALOV, K.N.; BOGONOSTSEV, A.S.; SHIFRIN, Kh.V.

Boron hydrides, new reagents in analytical chemistry. Report No.2:
Production of pure sodium and potassium boron hydrides. Trudy
KKHTI no.26:140-144 '59. (MIRA 15:5)

1. Kafedra analiticheskoy khimii Kazanskogo khimiko-tehnologicheskogo
instituta imeni S.M.Kirova.
(Boron hydrides) (Chemistry, Analytical)

MOCHALOV, K.N.; SHIFRIN, Kh.V.; BOGNOSTSEV, A.S.

Hydrolysis of sodium borohydride. Zhur. fiz. khim. 37 no.11:
2404-2407 N'63. (MIRA 17:2)

1. Kuzanskiy khimiko-tehnologicheskiy institut.

ACCESSION NR: AP4016520

S/0195/64/005/001/0174/0177

AUTHOR: Mochalov, K. N.; Shifrin, Kh. V.; Bogonostsev, A. S.

TITLE: Kinetics of potassium borohydride hydrolysis

SOURCE: Kinetika i kataliz, v. 5, no. 1, 1964, 174-177

TOPIC TAGS: potassium borohydride, sodium borohydride, lithium borohydride, cesium borohydride, alkali borohydride hydrolysis

ABSTRACT: The present work was prompted by the absence of data on KBH_4 which is a much later discovered product than NaBH_4 , but less known, although it is now industrially produced in the U.S.A. A study of KBH_4 and NaBH_4 hydrolysis in buffer borate solutions (as well as of LiBH_4 and CsBH_4) carried out by G. G. Gil'manshin in the laboratory of the Kazanskiy khimiko-tehnologicheskiy institut (Kazan' Chemical-Engineering Institute) showed that this reaction is practically independent of the cation action. Due to the proportionality of the reaction rate of the borohydride ion and the H^+ ion, it follows that an intermediate complex is formed (BH_4^-). Its

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ACCESSION NR: AP4016520

destruction may lead to borine $\text{BH}_3 + \text{H}_2$ which combines with water into $\text{BH}_2(\text{OH})$ and $\text{BH}(\text{OH})_2$ and with OH^- into hypoborates. Finally, in a strongly acidic medium, borine dimerizes with liberation of diborane B_2H_6 . The complex character of hydrolysis was proven by polarographic studies made by Gil'Manshin and by a chromatographic study made by V. S. Khain. LiBH_4 has the greatest reducing capacity. However, the polarizing action of cations is leveled in an aqueous medium, explaining the same interaction rate of different alkali borohydrides with water. Orig. art. has: 2 figures, 12 formulas and 2 tables.

ASSOCIATION: Kazanskiy khimiko-tehnologicheskiy institut (Kazan Chemical-Engineering Institute)

SUBMITTED: 17Jul 62

DATE ACQ: 18Mar64

ENCL: 00

SUB CODE: CH

NO REF Sov: 005

OTHER: 008

Card 2/2

BORISOV, A.; BIRGER, G.; VOLKOV, A.; DICH, S.; DUSEYEVA, Ye.; KONKIN, A.A.;
MEOS, A.; MIKHAYLOV, N.; MOGILEVSKIY, Ye.; POKSHVER, A.;
ROGOVIN, Z.; SERKOV, A.; SHIFRIN, L.

On the 60th birthday of an honored worker. Khim.volok. no.2:79
'62. (MIRA 15:4)
(Gruzdev, Vasili Alekseevich, 1902-)

AGRANOVSKIY, I.; ARANOVICH, B.; BELYAYEVA, V.; BOL'SHAKOV, A.; GRUZDEV,
V.; DICH, S.; ZELENTSOV, I.; KONKIN, A.; LEVIT, R.; MIKHAYLOV,
N.; MOGILEVSKIY, Ye.; SERKOV, A.; SMELKOV, G.; SNETKOV, N.;
SOROKIN, Ya.; SHIFRIN, L.

In memory of Vladimir Sergeevich Smurov, 1897-1965. Khim.
volok. no.2:78 '65. (MIRA 18:6)

SHIFRIN, L., kapitan 3 ranga

Supplement to the "Pal'ma" map-reading attachment and its use
in navigation. Mor.flot 19 no.4:30-33 Ap '59. (MIRA 12:6)

(Aids to navigation)

SHIFRIN, L., kapitan 2 ranga

Radar method of determining the speed of ships and lag corrections.
Mor. flot 23 no.3:22-25 Mr '63. (MIRA 16:3)
(Radar in navigation)

BELKIN, A.; BORISOV, A.; GENIN, B.; GUSLITSER, I.; GRUZDEV, V.; DICH,S.;
DUSEYEVA, Ye.; YEGOROVA, A.; ZAK, S.; KAZYMOV, A.; KRUPENNIKOVA, Ye.;
KONKIN, A.; MOGILEVSKIY, Ye.; PAKSHVER, A.; SMELKOV, G.;
CHICHKHIANI, A.; CHUGUNOV, K.; SHIFRIN, L.; YUNOVICH, E.

Sergei Alekseevich Tairov. Khim.volok. no.3:79 '62,
(MIRA 16:2)
(Tairov, Sergei Alekseevich)

SHIFRIN, L.A.

Tat'iana Fedorovna Abrosimova, Med. sestra 19 no.1:41-42 Ja '60.
(MIRA 13:5)
1. Iz Volzhskoy poselkovoy bol'nitsy Nekouzskogo rayona Yaroslavskoy
oblasti. (ABROSIMOVA, TAT'IANA FEDOROVNA, 1899-)

SHIFRIN, L.A.

Case of penetrating heart wound. Sov.med. 21 Supplement:21 '57.
(MIRA 11:2)

1. Iz Volzhskoy poselkovoy bol'nitsy Yaroslavskoy oblasti.
(HEART--WOUNDS AND INJURIES)

SHIFRIN, L.A.

Two cases of wounds of the heart. Khirurgiia 36 no.3:121-122
Mr '60. (MIRA 13:12)
(HEART—WOUNDS AND INJURIES)

SHIFRIN, L.A.

Two cases of extensive resection of the small intestine. Nov. khir.
arkh. no.3:86-88 My-Je '60. (MIRA 15:2)

1. Volzhskaya poselkovaya bol'nitsa Nekouzskogo rayona, Yaroslavskoy
oblasti. Adres avtora: st. Volga, Severnoy zheleznoy dorogi,
Volzhskaya poselkovaya bol'nitsa.
(INTESTINES—SURGERY)

ZARITSKIY, V.N., inzh.; KNYAVIINSKIY, V.O., kand. tekhn. nauk; RAYCHUK,
Yu.I., inzh.; SHIFRIN, L.M., inzh.

Calculation of efficient parameters of the sizing instrument on
expansion presses. Preizv. trub no.12:57-63 '64.
(MIRA 17:11)

L 42976-66 EWT(d)/EWT(m)/EWP(k)/EWP(h)/T/EWA(d)/EWP(v)/EWP(t)/EWP(1) WB/

ACC NR: AT5022784
HW/HM/JD

SOURCE CODE: UR/3164/64/000/014/0052/0055

AUTHOR: Knyazhinskiy, Z. O. (Candidate of Technical Sciences); Kalinushkin, P. N. (Engr.); Shifrin, L. M. (Engr.); Atamanenko, V. A. (Engr.)

28
21
B+1

ORG: Institute of Electric Welding im. Paton (Institut elekrosvarki); Volgograd Scientific Research Institute of Machine-Construction Technology (Volgogradskiy nauchno-issledovatel'skiy institut tekhnologii mashinostroyeniya)

TITLE: Welded large diameter two-layer pipes

SOURCE: Dnepropetrovsk. Vsesoyuznyy nauchno-issledovatel'skiy i konstruktorsko-tehnologicheskiy institut trubnoy promyshlennosti. Proizvodstvo trub, no. 14, 1964. Sbornik statey po teorii i praktike trubnogo proizvodstva (Collection of articles on the theory and practice of pipe production), 52-55

TOPIC TAGS: production engineering, pipe, corrosion resistance, stainless steel, carbon steel

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L 42976-66

ACC NR: AT5022784

ABSTRACT: The difficulty in obtaining special noncorrosive steel, because of its scarcity, in order to produce large-diameter pipes for use in plants producing corrosive materials at high temperatures and pressures makes it necessary to find a way towards a more economic use of such steel. It is recommended that a pipe be produced from two welded sheets of steel, with the inner surface of the pipe made from a high-alloy and corrosion-resistant steel and the outer surface from carbon or low-alloy steel. As a result of experiments a technological process was developed which consisted of taking two or three sheets of steel and welding them together in a plate, which in turn was formed into a hollow ingot and, after welding, shaped as a pipe. In addition to the welding of plates and pipes the method provided for carbon (or low-alloy) steel and stainless steel seams to give the necessary resistance to intercrystalline corrosion. The lengthwise edges of the plates were present in order to get a better regular cylindrical shape of the ingots. The shaping of plates into hollow ingots was carried out on plate-bending rollers with the use of a template. The welding of pipes was accomplished by the usual method with small modifications. The pipes were cold-straightened on a four-roller plant. It was possible by this method to produce high-quality welded two-layer pipes having a diameter of 630-1020 mm. Orig. art. has: 3 figures and 2 tables.

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L 42976-66

ACC NR: AT5022784

SUB CODE: 11,13 SUBM DATE: none

clad steel 18

Card 3/3 hs

LINDORF, L.S.; SHIFRIN, L.N.

Increase in the operational reliability of the converter devices
of electrolysis systems with automatic reclosing and short-circuits
in the network. Prom. energ. 15 no. 8:17-20 Ag 160. (MIRA 15:1)
(Electrometallurgy--Electric equipment)

SHIFRIN, L.S.
MOROZOV, A.P.; MININ, V.F., inzh.; SHIFRIN, L.S., inzh.; STAROV, A.F., inzh.;
PUGACH, Ya.Yu., inzh.

Thin-slab reinforced cement roofs in housing construction. Biul. tekhn.
(MIRA 11:1)
inform. 3 no.11:3-6 N '57.

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury (for
Morozov).
(Roofs, Concrete)

Shifrin, L.S.
MOROZOV, A.P.; MININ, V.F., inzh.; STAROV, A.F., inzh.; SHIFRIN, L.S., inzh.

First experience of using reinforced cement for roofs in civil
construction. Biul. tekhn. inform. 3 no.12:13-17 D '57. (MIRA 11:1)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury (for
Morozov).
(Roofs, Concrete)

YESHCHEŃKO, D.D., inzh.; STAROV, A.F., inzh.; SHIFRIN, L.S., inzh.

Vibrated brick panels for apartment houses. Biul.tekh.inform.
po stroi. 5 no.11:7-8 N '59. (MIRA 13:4)
(Leningrad--Building blocks)

SHIFRIN, Lev Solomonovich; CHERNOKAL'TSEV, Yu.L., inzh., sptared.; DENISOV,
K.N., red.izd-va; DROZHZHINA, L.P., tekhn.red.

[Use of the "Pal'ma" chart matching device in navigation]
Ispol'zovanie kartoslichitel'noi pristavki "Pal'ma" v sudo-
vozhdennii. Leningrad, Izd-vo "Morskoi transport," 1960.
(MIRA 13:4)
66 p.
(Radar in navigation) (Electronics in navigation)

KLEMANOV, Yu., inzhener.; SHIFRIN, M., inzhener.

New stands for testing automobile units. Avt.transp. 34 no.4:
21-23 Ap '56. (MLRA 9:8)
(Automobiles--Engines--Testing)

SHIFRIN, M.; SKACHKOV, A.

Automatic boiler plant control system on the whaler "Slava."
Mor. flot 18 no.1:12-15 Ja '58. (MIRA 11:1)

1. Nachal'nik otdela Vsesoyuznogo TSentral'nogo nauchno-issledovatel'skogo instituta imeni akademika A.N. Krylova (for Shifrin).
(Boilers, Marine) (Automatic control)

L 39049-66

ACC NR: AP6021981

(N)

SOURCE CODE: UR/0308/66/000/003/0031/0032

AUTHOR: Shifrin, M. (Professor)

ORG: None

TITLE: Raising the operational efficiency of marine equipment

SOURCE: Morskoy flot, no. 3, 1966, 31-32

TOPIC TAGS: marine equipment, remote control system, servicing technique, naval training

ABSTRACT: The author makes comments on the article by A. Val'ter which was published in this journal No. 4, 1965. Mr. Val'ter correctly pointed out the shortcomings in marine service crews and marine upkeep services. The author of the present article cites additional sources of error and inefficiency. One of the main criticisms is the use of the period between repairs as an index of efficiency. The author proposes periodic inspection of automatic and remote control equipment along with engines etc. If periods between repairs are used as the index, there is absolutely no way of telling how well the equipment was serviced and whether failure of equipment was due to total lack of service as has been the case in the past. The author proposes that qualified crews be trained specifically for servicing equipment under their care and that reports on the condition of equipment be submitted to several agencies including the plant

UDC: 629.128.004.17

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ACC NR: AP6021981

which manufactured the equipment. It is pointed out that spare parts and qualified personnel for installing them are not available on most ships. Repair work and servicing can be combined with docking if preliminary organizational steps are taken. The organization of spare parts distribution, training of qualified personnel in the theory and practice of equipment handling, the availability of consultants from plants issuing the equipment, standardization whenever possible and other measures for improving operating efficiency and economy of automated and remote control marine equipment should eliminate existing problems.

SUB CODE: 13, 14/ SUBM DATE: none

Card 2/2111LP

SHIFRIN, M.A.

KONOROV, A.V.; SEMENTSOV, S.A.; SHIFRIN, M.A.

[Simplified methods for building material testing] Uprosh-
chennye sposoby ispytaniia stroitel'nykh materialov. Moskva,
Gos.izd-vo stroit.lit-ry, 1946. 71 p. (MIRA 8:2)
(Building materials--Testing)

SHIFRIN, M. A.

"Construction of the Insulation of Nonmetal Reservoirs for Corrosive Medium." Sub 10 Jun 47, Central Sci Res Inst of Industrial Structures (TsNIPS) *Can. Tech. Sci*

Dissertations presented for degrees in science and engineering in Moscow in 1947.

SO: Sum. No. 457, 18 Apr 55

SHIFRIN, M.A.,kand.tekhn.nauk; MALINA, F.N.,inzh.

Industrial methods of making and erecting partitions. Biul.
stroi.tekh. 12 no.10:10-12 0 '55. (MIRA 12:1)
(Walls) (Gypsum) (Slag)

SOV/112-57-5-10644

18 (3)

Translation from: Referativnyy zhurnal, Elektrotehnika, 1957, Nr 5,
pp 155-156 (USSR)

AUTHOR: Shifrin, M. A., Gorodinskiy, I. A.

TITLE: Automatic Monitoring of the Thickness of Hot-Rolled Sheets
(Avtomatushchischiy kontrol' tolshchiny goryachego tonkolistovogo prokata)

PERIODICAL: Byul. Tsentr. in-t inform. chernoy metallurgii, 1956, Nr 4,
pp 55-61

ABSTRACT: An automatic outfit is described for measuring hot-rolled 2-10 mm
sheets by the compensation method, with an error under 0.02-0.03 mm; the
outfit has been developed by the Central Automation Laboratory, the Ministry
of Ferrous Metallurgy (TsLA MChM), and depends on x-ray pulses for its
operation. The outfit comprises: an x-ray tube, two photomultipliers with
luminescent screens, a supply-and-control desk, and an electronic BP-102
potentiometer. A pulse modulator produces 0.0001-sec pulses with a

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Automatic Monitoring of the Thickness of Hot-Rolled Sheets

repetition frequency of 50 cps. The x-ray tube voltage is 100 kv, current 0.1 amp. The average power is about 40 va as compared to 3.2 kva needed for continuous radiation. The service life of the x-ray tube is 3,000-4,000 hours. Reported are: calculation of generating conditions, analysis of measurement errors due to hot sheet, calculation of water sprinkling on the sheet and warping of same; measures to eliminate the errors are indicated. A general block diagram, pulse-modulator circuit, records and graphs obtained are presented.

V.F.R.

Card 2/2

BERDICHEVSKIY, G.I., kand.tekhn.nauk; DMITRIYEV, S.A., kand.tekhn.nauk;
MIKHAYLOV, K.V., kand.tekhn.nauk; GVOZDEV, A.A., prof., doktor
tekhn.nauk; MIKHAYLOV, V.V., prof., doktor tekhn.nauk; BULGAKOV,
V.S., kand.tekhn.nauk; VASIL'YEV, A.P., kand.tekhn.nauk; YEVGEN'YEV,
I.Ye., kand.tekhn.nauk; MULIN, N.M., kand.tekhn.nauk; SVETOV, A.A.,
kand.tekhn.nauk; FRENKEL', I.M., kand.tekhn.nauk; BELOBROV, I.K.,
inzh.; MATKOV, N.G., inzh.; MITNIK, G.S., inzh.; SKLYAR, B.L., inzh.;
SHILOV, Ye.V., inzh.; MASENKO, I.D., inzh.; NIZHNICHENKO, I.P., inzh.;
FILIPPOVA, G.P., inzh.; MIZERNYUK, B.N., kand.tekhn.nauk; SHEYNFEL'D,
N.M., kand.tekhn.nauk; BALAT'YEV, P.K., kand.tekhn.nauk; BARBARASH,
I.P., kand.tekhn.nauk; MITGARTS, L.B., kand.tekhn.nauk; SHIFRIN, M.A.,
kand.tekhn.nauk; PETROVA, V.V., red.izd-va; TENKINA, Ye.L., tekhn.red.

[Temporary instruction on the technology of making prestressed re-inforced concrete construction elements] Vremennaia instruktsiia po
tekhnologii izgotovleniia predvaritel'no napriazhennykh zhelezobetonykh konstruktsii. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i
stroit.materiamal, 1959. 255 p. (MIRA 12:12)

(Continued on next card)

· BERDICHEVSKIY, G.I.----(continued) Card 2.

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut betona i zhelezobetona, Perovo. 2. Nauchno-issledovatel'skiy institut betona i zhelezobetona Akademii stroitel'stva i arkhitektury SSSR (for Gvozdev, V.V.Mikhaylov; Berdichevskiy, Bulgakov, Vasil'yev, Dmitriyev, Yevgen'yev, K.V.Mikhaylov, Mulin, Svetov, Frenkel', Belobrov, Matkov, Mitnik, Sklyar, Shilov). 3. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhpomoshchi Akademii stroitel'stva i arkhitektury SSSR (for Masenko, Nizhnichenko, Filippova, Mizernyuk, Sheynfel'd). 4. Nauchno-issledovatel'skiy institut Glavmospromeystroymaterialov (for Balat'yev, Barbarash). 5. Nauchno-issledovatel'skiy institut po stroitel'stvu Minstroya RSFSR (for Mitgarts, Shifrin). 6. Deyativitel'nyye chleny Akademii stroitel'stva i arkhitektury SSSR (for Gvozdev, V.V.Mikhaylov).

(Prestressed concrete)

ABEZGAUZ, V.D., inzh.; LIVSHITS, L.S.; SHIFRIN, M.A., kand.tekhn.nauk

Operating and improving the SM-535 stand. Stroi.i dor.mashinostr.
no.7:32-36 J1 '59. (MIRA 12:11)
(Prestressed concrete construction)

SHIFRIN, M.A., kand. tekhn. nauk

Technology of making wire-reinforced concrete products on the
SM-535 stand. Nov. tekhn. mont. i spets. rab. v stroi. 21:15-18
Je '59. (MIRA 12:8)

1. Nauchno-issledovatel'skiy institut stroitel'noy promyshlennosti
Minstroya RSFSR.
(Reinforced concrete)

SHLFRIN, M.A., kand.tekhn.nauk

New methods for fixing cable ends. Mont. i spets, rab. v stroi.
22 no.5:27-28 My'60. (MIRA 13:10)

1. Nauchno-issledovatel'skiy institut stroitel'noy promyshlennosti.
(Cables)

SHIFRIN, M.A., kand.tekhn.nauk (g.Moskva); SHAPOVALOV, I.S., inzh.;
KUROCHKIN, M.; YERSHOV, A.V., starshiy nauchnyy sotrudnik;
SHEVEL'KOV, V.L., prof., doktor tekhn.nauk

Heat engineering standards and regulations in construction
should be revised. Inzh.-fiz. zhur. 4 no.9:120-126 S '61.
(MIRA 14:8)

1. Issledovatel'skiy institut eksperimental'nogo proyektiro-
vaniya Akademii stroitel'stva i arkhitektury SSSR (for
Shapovalov). 2. TSentral'nyy institut nauchnoy informatsii
po stroitel'stvu i arkhitekture Akademii stroitel'stva i
arkhitektury SSSR (for Kurochkin). 3. Nauchno-issledova-
tel'skiy institut po stroitel'stvu Akademii stroitel'stva i
arkhitektury SSSR, g. Tashkent (for Yershov). 4. MKhTIMP
(for Shevel'kov).
(Building laws) (Heat engineering)

KOLODZIY, I.I., inzh.; SHIFRIN, M.A., kand.tekhn.nauk

New rack-type holders for piling stands. Stroi.i dor.mash. 6
no.4:26-27 Ap '61. (MIRA 14:3)
(Prestressed concrete construction—Equipment and supplies)

SHIFRIN, M.A., kand.tekhn.nauk; RUF, L.V., inzh.

Use of strand reinforcement in prestressed concrete products.
Prom.stroi. 40 no.8:46-50 '62. (MIRA 15:11)
(Concrete reinforcement) (Prestressed concrete)

VASILEVSKIY, M.E., prof.; SHIFRIN, M.A.

Hyperinsulinism. Vrach. delo no.10:72-76 0 '63.
(MIRA 17:2)

1. Kafedra gospital'noy terapii (zav. - prof. M.E.
Vasilevskiy) Yaroslavskogo meditsinskogo instituta.

SHIFRIN, M. A.

Blood serum proteins in diabetes mellitus. Probl. endok. i gorm.
8 no. 3:82-93 My-Je '62. (MIRA 15:6)

1. Iz kafedry gospital'noy terapii (zav. - prof. M. E. Vasilevskiy)
Yaroslavskogo meditsinskogo instituta.

(DIABETES) (BLOOD PROTEINS)

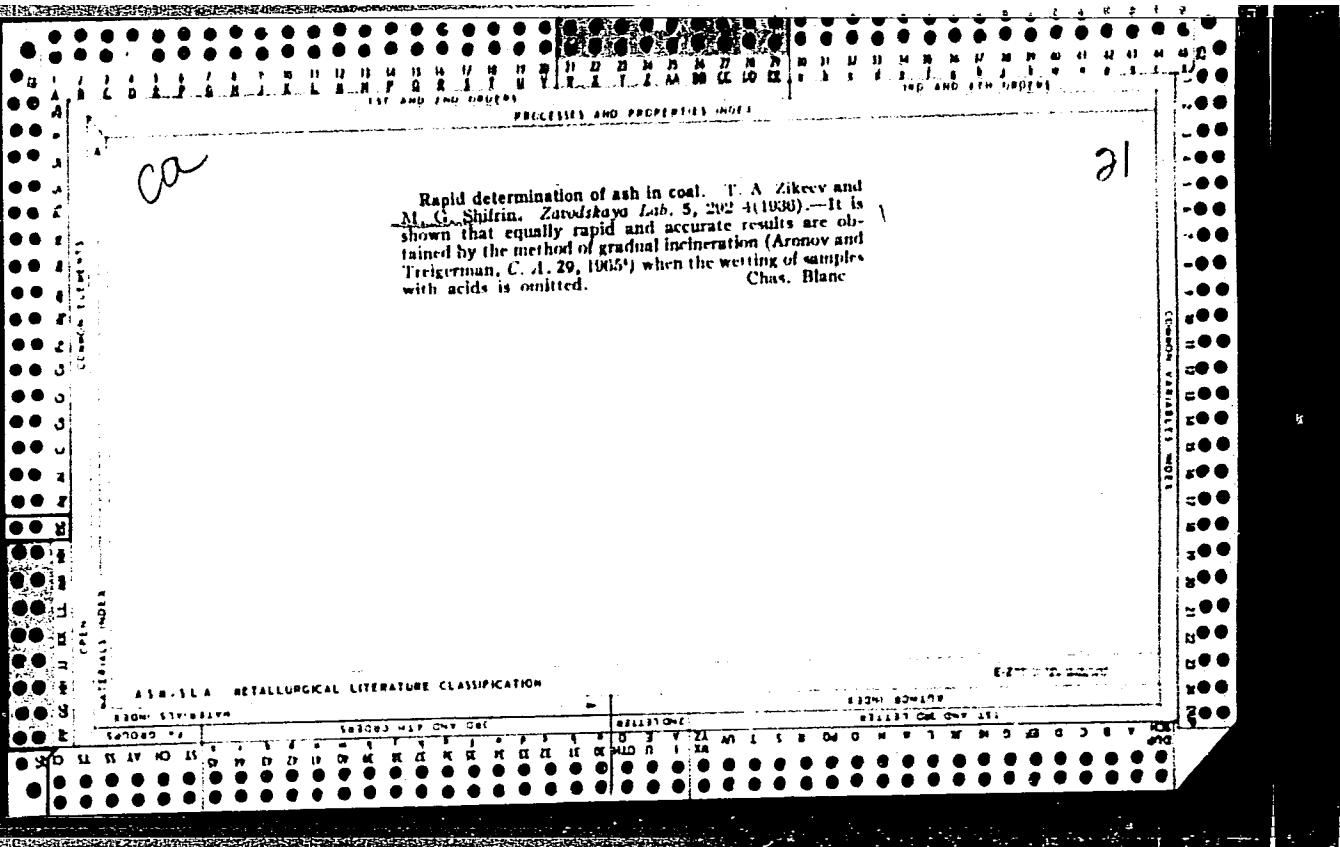
ABRAMOV, S.A., inzh.; ALIFANOV, I.N., inzh.; KARPOV, A.F., inzh.;
KOROTKOV, A.P., inzh.; KOLOSOV, B.P., inzh.; KUZNETSOV,
V.S., inzh.; NIKONOV, G.V., inzh.; REPIN, M.I., inzh.;
SEMEYUCHENKO, G.P., inzh.; SLOBODSKOY, L.M., inzh.;
TSUKANOV, Ye.V., inzh.; SHIFRIN, M.G., inzh.; BOL'SHAKOV,
A.S., inzh., retsenzent; KISELEVKA, N.P., inzh., red.;
USENKO, L.A., tekhn. red.

[11D45 diesel locomotive] Teplovoznyi dizel' 11D45. Moskva,
Transzheldorizdat, 1963. 95 p. (MIRA 16:7)
(Diesel locomotives)

ZHILIN, G.A.; MALINOV, M.S.; RODOV, A.M.; SULIMTSEV, I.I.; SHIFRIN,
M.G.; KISELEVA, N.P., inzh., red.; IL'IN, B.M., tekhn. red.

[TEP60 diesel locomotive for passenger trains] Passazhirskii
teplovoz TEP60. Moskva, Transzheldorizdat, 1963. 222 p.
(MIRA 16:9)

(Diesel locomotives)

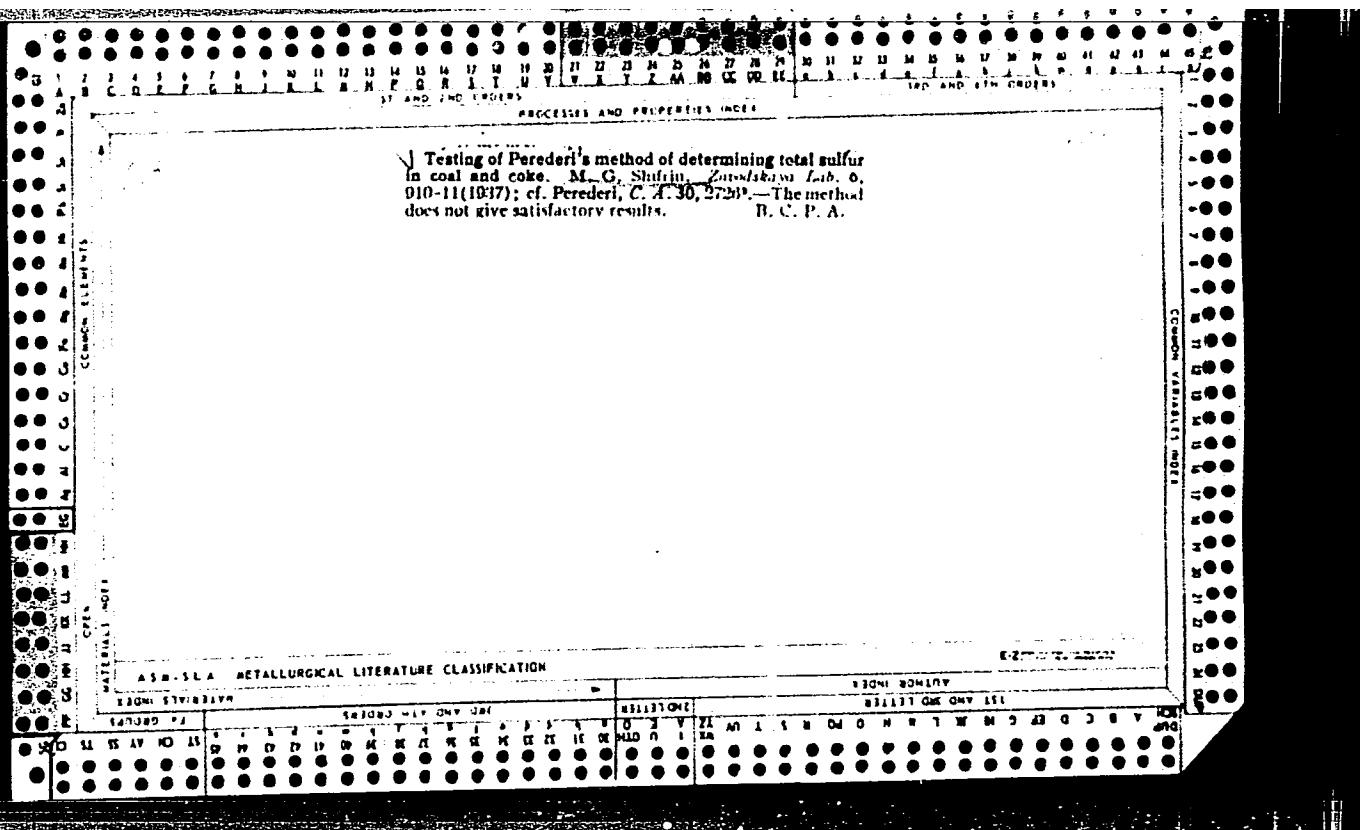


6A

21

Determination of sulfur in coal. M. G. Shifrin,
Zarodishyu Lab. 5, 824-8(1936). --Bruins method is
recommended. B. C. A.

AM-35A METALLURGICAL LITERATURE CLASSIFICATION

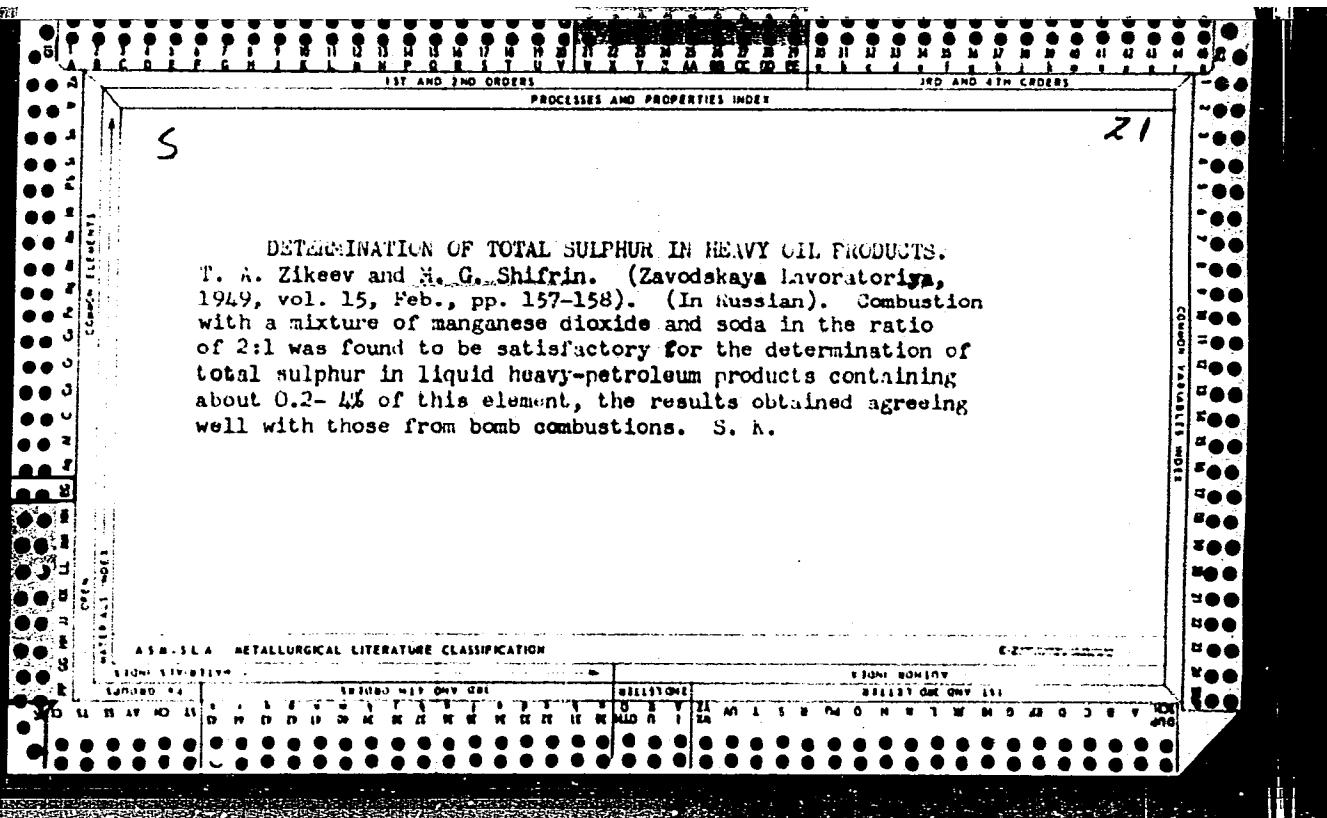


Solutions of chromous chloride as oxygen absorbents in gas analysis. T. A. Zilkreit and M. G. Shiffman, Zerodol, 13, 1130-3 (1947).—In general concn. solns. of CrCl_2 are more stable than are dil. solns. Amalgamated Zn is preferable to Zn in reducing CrCl_3 soln. Study of performance made in a precision app., in which air was passed through the reagent and then through pyrogallol, showed that the fresh reagent fails to absorb about 0.14% of the O present; this value increases as the reagent is used. Fresh solns. can be used for O analyses which do not require high precision. The effectiveness is unaffected by temp. between 5° and 50°. G. M. Kosolapoff

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APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001549410013-3"



Sh. Front, M.G.

✓ 798. APPLICATION OF THE ACCELERATED METHOD OF FEDOSEEV AND PATENTED FOR
THE DETERMINATION OF CARBON AND HYDROGEN TO SOLID FUELS. Zil'kev, T.A. and
Spirin, M.G. (Izv. Vsesoyuz. Toplotekhn. Inst. (full. All-U. Mtr. Engine
Inst. Moscow), 1952, vol. 21, (12), 24-27; abstr. in Chem. Abstr., 1956,
vol. 50, 5729). The method was found applicable to solid fuels, but with peat
an intense combustion was observed. The substitution of cupric oxide for
chromic oxide resulted in smooth combustion and gave equally good results. *C.A.*

SHIFRIN, M.G.; KURGATNIKOV, V.M.

New development of organization in the cutting-out department of the
"Skorokhod" factory. Leg.prom. 15 ne.10:8-13 0 '55. (MLRA 9:1)
(Shee industry)

ZIKEYEV, T.A., kandidat tekhnicheskikh nauk; SHIFRIN, M.G., inzhener.

Determination of unburned carbon in hearth shale residues.
Elek. sta. 27 no.1:11-13 '56. (MLRA 9:6)
(Combustion)

I. 8159-66 EPF(n)-2/T-2/ETC(m)/EWP(f) WW

ACC NR: AP5025065

SOURCE CODE: UR/0286/65/000/016/0116/0116

AUTHORS: Morgulis, P. S.; Vasil'chenko, P. A.; Shifrin, M. G.; Repin, M. I.

ORG: none

TITLE: Method of increasing pick-up (acceleration) of diesel generators with gas turbine superchargers. Class 46, No. 174039

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 116

TOPIC TAGS: engine governor, supercharger, gas turbine, diesel engine

ABSTRACT: This Author Certificate presents a method for improving the pick-up of diesel generators with gas turbine superchargers by controlling the supply of exhaust gases to the turbine. To permit load variations without change in engine speed, the step-wise changes of turbine partiality (partial admission) are accomplished by supplying exhaust gases from one or several collectors to the turbine. The control is provided by a gas distributing valve which is activated according to engine load.

SUB CODE: PR/ SUEM DATE: 01Jun64

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Card 1/1

UDC: 621.436

Chennai, Tamil Nadu 600 009, India.

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R001549410013-3"

SHIFRIN, M. Sh.

"Multi-Impulse Regulation of Electrical Apparatus" Tr. Leningr. Korabstroyit,
In-ta, No 12, 1954, 135-143

The author presents a brief account of the concepts and terminology of the classical theory of automatic regulation. He presents the basic schemes of the regulation of steam turbines (of direct and indirect action, with rigid and flexible reverse connections, with subsidiary regulation according ~~to~~ to load and according to the derivative of the regulated parameter). (RZhMekh, No 9, 1955)

SHIFRIN, M.Sh., kandidat tekhnicheskikh nauk.

Effect of the static characteristics of the fuel control system on
the dynamics of steam pressure regulation in boilers. Sudostroenie
22 no.1:8-13 Ja '56. (MLRA 9:7)
(Boilers, Marine) (Steam engineering)

SHIFRIN, Moisey Shmerovich; SERDYUKOV, S.A., nauchnyy red.; SHAURAK, Ye.N.,
red.; KONFOROVICH, A.I., tekhn.red.

[Control of marine boiler installations] Regulirovanie sudovykh
kotel'nykh ustanovok. Leningrad, Gos.soiuznoe izd-vo sudostroit.
promyshl., 1957. 391 p.
(Boilers, Marine)

SHIFRIN, M.Sh., kandidat tekhnicheskikh nauk.

Current conditions and ways of developing over-all automatization
of ship power plants. Sudostroenie 23 no.1:27-33 Ja '57.
(MIRA 10:10)

(Electricity on ships) (Automatic control) (Steam engineering)

SHIFRIN, M.S.

SOV/122-58-6-34/37

Scientific and Engineering Conference on Design and Construction
Problems of Sea-going Merchant Vessels, Vest-Vrash, No. 6, pp 83-84-1958

The high efficiency of diesel engines was shown in the paper and their advantages which have ensured their widespread use in the range of powers between 10 000 and 15 000 hp were elucidated. M.S. Shifrin, Doctor of Technical Sciences, reported on the situation and development of integrated automation in ships' propulsion machinery and recorded the creation of regulating apparatus capable of full automation of all power services. Modern equipment is well on the way to provide a complete solution to the automation problem. Ya.B. Kantorovich, Candidate of Technical Sciences, considered in his paper the basic trends in the improvement of the technical and economic effectiveness of transport vessels. A.D. Chernov, A.M. Aksel'band, A.Kh. Starostenko and others discussed the need to improve steam turbines for ships' propulsion and the advisability of their use in the range of powers above 15 000 hp. G.A. Ogloblin reported on the development work in the field of gas turbines for ships' propulsion. The preparation of the manufacture of powerful slow-running diesel engines was reported to the conference.

Card 4/5

SHIFRIN, M.Sh., doktor tekhn. nauk.

Selecting a system of regulating the fuel combustion process in
marine boilers. Sudostroenie 24 no.2:22-25 P '58. (MIRA 11:3)
(Boilers, Marine) (Governors (Steam engine))

SHIFRIN, M.Sh., doktor tekhn.nauk

Operational results in the field of automatic control of marine steam-power plants. Sudostroenie 25 no.1:43-48 Ja '59. (MIRA 12:3)
(Marine engines) (Automatic control)

SHIFRIN, M.SH., doktor tekhn.nauk

Selecting a level regulator diagram for marine steam boilers.
Sudostroenie 25 no.12:17-21 D '59. (MIRA 13:4)
(Boilers, Marine) (Liquid level indicators)

PHASE I BOOK EXPLOITATION

SOV/5519

Kremlevsky, P. P., Candidate of Technical Sciences, ed.
 Teploenergeticheskiye i khimiko-tehnologicheskiye pribory i regulatory
 (Instruments and Regulators in Heat-Power and Chemical Engineering)
 Moscow, Mashgiz, 1961. 207 p. Errata slip inserted. 8,500 copies
 printed.

Ed. of Publishing House: G. A. Didiushova; Tech. Ed.: L. V. Shchetinin;
 Managing Ed. for Literature on the Design and Operation of Machines,
 Leningrad Department, Mashgiz; F. I. Fetisov, Engineer.

PURPOSE: This book is intended for engineers and technicians who construct,
 design, and operate industrial instruments and regulators.
 The following problems are discussed: Improvement of two-position
 control; operation; effect of mass action and damping on proportional
 control; new proportional plus integral and programming electronic
 regulation systems; complete automation of open-hearth furnaces;
 automation of boilers with variable load capacity; measurement of
 pulsating flow; measurement of dust flow; ultrasonic and magnetic-
 induction flowmeters; pneumatic compensating differential manom-
 eters; aggressive fluid flowmeters; new magnetic and optical-acous-
 tic gas analyzers; concentration meter; and chlorine and coagulant
 regulators. The book is the fifth in a series containing reports on the
 measurements of mechanical quantities called by the section, the
 VNIIM (Vsesoyuzny nauchno-issledovatel'skiy institut metrologii im.
 D. I. Mendeleyeva -- All-Union Scientific Research Institute of
 Metrology) and D. I. Mendeleyev, and the Leningradskiy dom
 ucheniya im. A. M. Gor'kogo (Leningrad Home for Scientists and
 A. M. Gor'kogo). No personalities are mentioned. There are 85 ref-
 erences; 41 Soviet, 20 English, and 4 German. References accompany
 most chapters.

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ZBROZHEK, Vladimir Vatslavovich[deceased]. Prinimali uchastiye:
SLUTSKIN, L.A., inzh.; FADEYEV, V.I., inzh.; SHIFRIN, M.Sh.,
doktor tekhn. nauk, prof., ratsenzent; ANTONOVICH, S.A., kand.
tekhn. nauk, ratsenzent; GARBER, Ye.D., nauchnyy red.; NIKITINA,
R.D., red.; KRYAKOVA, D.M., tekhn. red.

[Automatic control of ship systems]Avtomatika sudovykh sistem.
Leningrad, Sudpromgiz, 1962. 145 p. (MIRA 15:10)
(Marine engineering) (Automatic control)

ANTONOVICH, Sergey Aleksandrovich; SHIERIN, M.Sh., doktor tekhn.nauk,
retsn.; MERKIN, D.R., doktor fiziko-mat. nauk, prof., retsn.;
FEDORKO, P.P., red.; VOLCHOK, K.M., tekhn. red.

[Fundamentals of the theory of automatic control] Osnovy teorii
avtomaticheskogo regulirovaniia. Leningrad, Izd-vo "Rechnoi
transport," 1962. 367 p. (MIRA 15:7)
(Automatic control)

BEREZIN, Sergey Yakovlevich; STARYNKEVICH, D.S., retsenzent; SHIFRIN, M.Sh., doktor tekhn. nauk, retsenzent; AFOSHIN, A.N., nauchnyy red.; SACHUK, N.A., red.; SHISHKOVA, L.M., tekhn. red.

[Design of automatic control systems using inverse amplitude-phase characteristics]Raschet sistem avtomaticheskogo regulirovaniia s pomoshch'iu obratnykh amplitudno-fazovykh kharakteristik. Leningrad, Sudpromgiz, 1962. 336 p.

(MIRA 15:10)

(Automatic control)

SHIFRIN, Moisey Shmerovich; NELEPIN, R.A., kand. tekhn. nauk, retsenzent; POLUEKTOV, R.A., kand. tekhn. nauk, retsenzent; PIVEN', V.D., doktor tekhn. nauk, nauchn. red.; VLAHOVA, Z.V., red.; CHISTYAKOVA, R.K., tekhn. red.; ERASCOVA, N.V., tekhn. red.

[Automatic control of marine steam power plants; theory and design] Avtomaticheskoe regulirovanie sudovykh parosilovykh ustrojstv; teoriia i proektirovanie. Leningrad, Sudpromgiz, 1963. 586 p. (Boilers, Marine) (Automatic control) (MIRA 16:10)

SHIFRIN, M.Sh., doktor tekhn. nauk; YUNG, V.N., inzh.

Control diagrams of the condensate system in marine steam
turbine plants. Sudostroenie 28 no.1:29-34 Ja '62.

(MIRA 16:7)

(Steam turbines, Marine)
(Feed water regulation)

SHIFRIN, M.Sh., doktor tekhn.nauk; YUNG, V.N., inzh.; VOYTETSKIY, V.V., inzh.

Selecting a type of feedback in regulators of marine power plants.
Sudostroenie 29 no.10:22-26 0 '63. (MIRA 16:12)

ACC NR: AP6035837

SOURCE CODE: UR/0413/66/000/020/0041/0041

INVENTOR: Berezinskiy, V. I.; Vol'fenzon, M. N.; Zakharov, G. A.; Il'in, A. G.; Pavlova, Ye. A.; Skachkov, A. M.; Shifrin, M. Sh.; Eydin, I. I.; Yung, V. N.

ORG: none

TITLE: System for automatic regulation of the steam-main operation of a marine turbine unit. Class 14, No. 187041

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 41

TOPIC TAGS: turbine, steam turbine, engine turbine system, marine engine, marine engineering, pressure regulator, automatic regulation

ABSTRACT: An Author Certificate has been issued for a system for the automatic control of steam-main operation in marine-turbine units with steam takeoffs connected to units requiring dissimilar pressure, maintained by the use of pressure regulators, and to the cooled-steam circuit. To provide for the regulators' independent operation and to improve their functioning, the pressure regulators are connected parallel to the cooled-steam circuit. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 12Jul65/

Cord 1/1

UDC: 621.125-225.1-531.8

SHIFRIN, M.Sh., doktor tekhn. nauk

Full automation of ships. Sudostroenie 30 no. 6:1-4 S '64.
(MIRA 17:11)

SHITRIN, Mikhail Yul'yevich; SOLOMOVICH, Moisey Yakovlevich; ARONOVICH, M.S.,
redaktor; GOLYATKINA, A.G., redaktor; MIKHAYLOVA, V.V., tekhnicheskij
redaktor

[The production of seamless rolled wheels and bands] Proizvodstvo
tsel'nokatanykh koles i bandazhei. Moskva, Gos. nauchno-tekhn. izd-
vo lit-ry po chernoi i tsvetnoi metallurgii, 1954. 500 p. (MLRA 8:3)
(Car wheels)

SOV/137-58-11-23490

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 235 (USSR)

AUTHOR: Shifrin, M. Yu.

TITLE: Modification in the Chemical Composition of Steel Employed in the Manufacture of Railroad Wheels (Izmeneniye khimicheskogo sostava kolesnoy stali v praktike proizvodstva zheleznodorozhnykh koles)

PERIODICAL: Byul. nauchno-tekhn. inform. Vses. n.-i. trubnyy in-t, 1958, Nr 4-5, pp 199-203

ABSTRACT: A survey. The trends toward the modification of chemical composition of steel employed in the manufacture of railroad wheels in the USA, Japan, and Germany are examined. The following topics are discussed: Reduction of C content in order to improve the resistance of railroad wheels to braking defects; employment of heat-treatment procedures which increase the wear resistance of wheel and rim steel, and alloying of the steel with Si, Cr, W, and Mo.

I. B.

Card 1/1

); 25(1)

PHASE I BOOK EXPLOITATION SOV/2698

Shifrin, Mikhail Yul'yevich

Defekty tsel'nokatanykh koles (Defects in Wrought Steel Wheels) Moscow,
Metallurgizdat, 1959. 202 p. Errata slip inserted. 1,500 copies printed.

Ed.: N.V. Manakin; Ed. of Publishing House: A.L. Ozeretskaya; Tech. Ed.:
A.I. Karasev.

PURPOSE: This book is intended for engineering and technical personnel in
wheel-rolling mills and for railroad workers. It may also be useful to
students of vuzes.

COVERAGE: The author discusses defects occurring in wrought steel wheels.
Causes of such defects and the possibility of preventing them are analyzed.
Types of defects, testing procedures and results, and methods of eliminating
rejects are included. No personalities are mentioned. There are 46
references: 42 Soviet, and 4 English.

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A161/A030

AUTHOR: Shifrin, M. Yu.

TITLE: Gaging the Tools of the Shaping and Bending Presses of a Wheel Rolling Unit

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No. 10, pp. 15 - 19

TEXT: The complex process of shaping wheel blanks for rolling in a wheel rolling shop is discussed and all elements of the dies are analized and calculated. A shaping die set (Fig. 1) must guarantee the required hub dimensions and disc thickness at the hub, so that these wheel portions are not more deformed in the further processes. Practical recommendations are given concerning the allowances for machining, the taper of side surfaces, diameters, minding that heat treatment of the shaping press tools is not practiced in the Soviet wheel-rolling shops and the dimensions of a freshly installed die change after the formation of several blanks. The usual dies shrink 3 - 4 mm in diameter. Forming rings used in Soviet and foreign practice have a conical inner surface (Fig. 3); a new inner surface shape had been suggested for lighter wheel types. (Fig. 4). It reduced the deformation of the outer wheel blank surface in the first moment of rolling, which

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Gaging the Tools of the Shaping and Bending Presses of a Wheel Rolling Unit

reduces the eccentricity of the hub in relation to the rolling surface. The calculation principle is the same as for the ring with conical bore, with a little dimensions correction. The method of static moments is used for calculation of the metal volume that must be concentrated in the rim of the wheel blank (Fig. 5). The new rings with "stepped gaging" (Fig. 4) have only been used little, and their optimum dimensions have not yet been established. Presently, the top portion is made with the usual taper 1:4 on 40 mm height, and the remaining portion is tapered 1:5. The shape and tapers of shaping press mandrel (Fig. 6) are discussed. It is mentioned that the imeni K. Liebknecht Plant uses mandrels of 425 mm length. The shape elements of wheel bending dies (Fig. 7) are also discussed and calculated. The bending of the wheel disc and the gaging of the rim is produced on the bending press after rolling on the rolling mill. It is mentioned that a die with a central portion that is longer than usual has been made for forging lightened wheels with a longer hub. There are 9 figures.

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Figure 3:

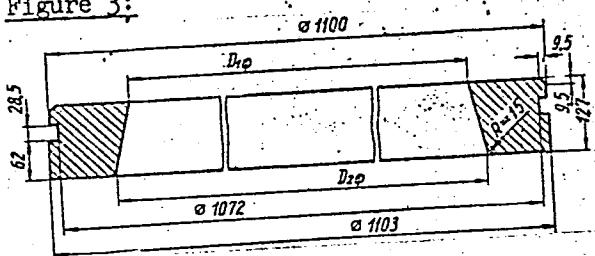
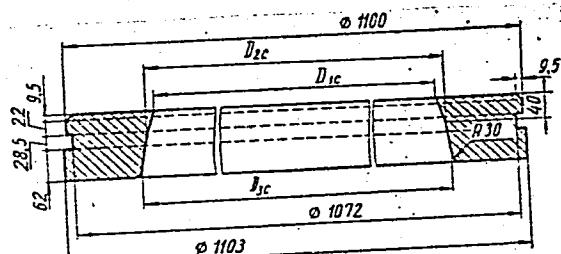


Figure 4:

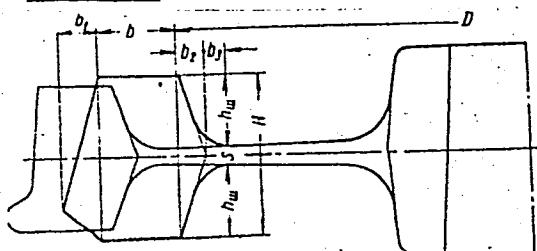


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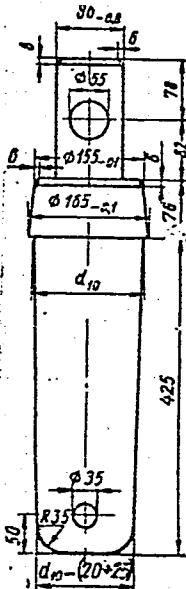
Gaging the Tools of the Shaping and Bending Presses of a Wheel
Rolling Unit

Figure 5:



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Figure 6:



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AUTHORS: Shifrin, M.Yu., Kovalenko, Yu.Ye., Kolesnik, B.P., Polyakova, N.K., Kharkhorin, A.M.

TITLE: Development of Technology for Manufacture of Hollow Axles

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No. 11, pp.11-15

TEXT: The problem of hollow axles for rolling stock on railroads could not be solved up to now. The authors have suggested to manufacture hollow axles from hollow rolled blanks and the Uralvagonzavod plant has developed axle designs in cooperation with the Ukrainskiy nauchno-issledovatel'skiy trubnyy institut (Ukrainian Scientific Tube Research Institute) (Fig. 1, axle for plain bearings, Fig. 2, for roller bearings). Experiments were carried out with billets rolled in an automatic tube rolling mill from "45" steel per GOST 1050-57 (GOST 1050-57) standard of the following composition: (%) 0.44 C; 0.63 Mn; 0.25 Si; 0.28 S; 0.021 P; 0.13 Cr. Blanks of 230 mm diameter were pierced in a piercing mill, rolled in an automatic "220" or "400" mill with three passes, then reheated and forged on the ends in an especially designed three-impression die (Fig. 4), or in Card 1/8

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a single-impression die (Fig. 5) for plain or roller bearings, respectively (Fig. 7 and 8). Ends were forged with a mandrel to maintain the hole in the axle trunnions. The axle wall thickness was uneven on account of the twisting of the metal in the piercing process, but this helical line of higher or lower wall thickness did not disbalance the entire axle too much. As wall unevenness can increase on account of buckling of rough axles, straightening of the rough rolled axle must be made obligatory in the manufacturing process. The axles were normalized in a continuous furnace with 840 \pm 10 $^{\circ}$ C for 5 h 30 min and cooled in the air. The macrostructure of the trunnions metal was dense and sound with fibers following the axle outline without interruptions and with insignificant segregation of sulfur towards the inner surface. The mechanical properties were above the standard requirements and partly even higher than the mechanical properties of solid axles. The weight of the axles varied between 328 and 348 kg compared with 428 kg of a solid standard axle. When techniques will be improved, the weight of the hollow axle for roller bearings may be further reduced to

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310-318 kg. The conclusion is drawn that manufacture of hollow axles from rolled blanks by rolling and subsequent forging of the ends is feasible. Fatigue tests of hollow axles are necessary, but a rolling shop project for manufacturing hollow axles may be developed without waiting for the test results, for hollow axle blanks can be produced by existing equipment. The recommended production equipment includes a machine for making hollow blanks, a three-high helical cross rolling mill ("stan poperechno-vintovoy prokatki") and hydraulic presses for forging the axle ends.

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Development of Technology for Manufacture of Hollow Axles

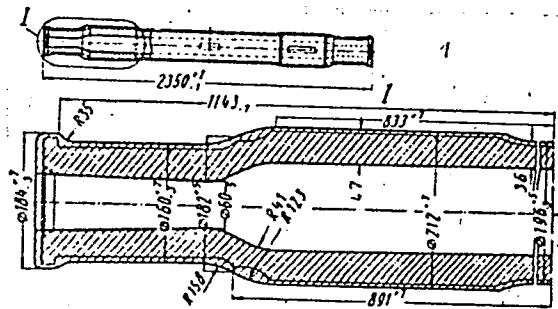


Fig. 1: Hollow axle for plain bearings

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